5.11 *Lab:* Pie Chart

Figure 5-2 shows a snapshot from the program *Poll* that helps to run a poll for the election of a school president. The results are shown as numbers for each of the three candidates and as slices on a pie chart.

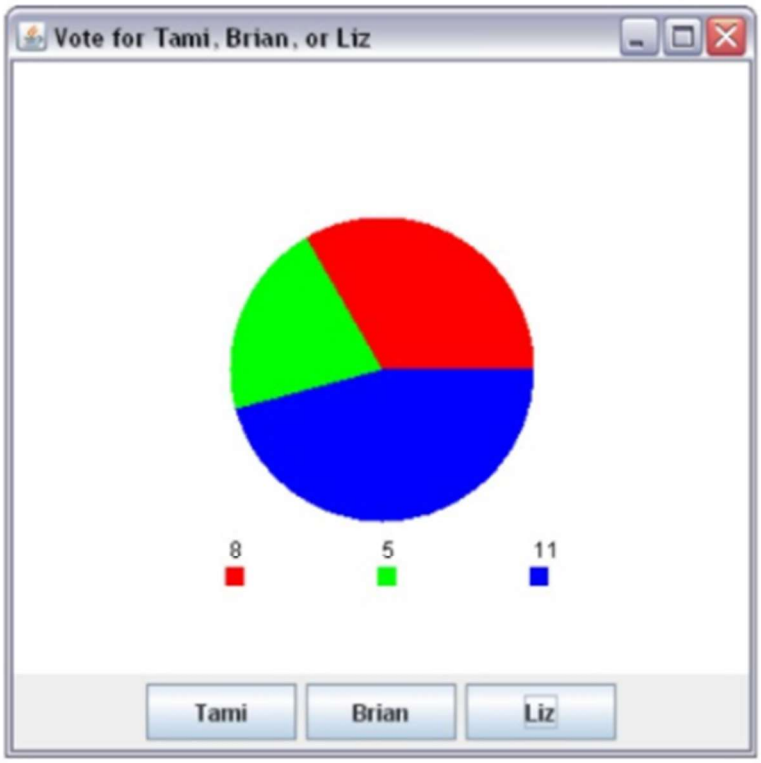

Figure 5-2. The *Poll* program

The source code for this program consists of three classes: `Poll`, `PollControlPanel`, and `PollDisplayPanel`. `Poll` is the main class: it creates a program window and adds a control panel and a display panel to it. A `PollControlPanel` object represents a control panel with the three buttons. It also handles the buttons' click events. A `PollDisplayPanel` object keeps track of the poll counts and displays them as numbers and as a pie chart.

Your task is to fill in the blanks in the `PollDisplayPanel` class. Collect the three files, `Poll.java`, `PollControlPanel.java`, and `PollDisplayPanel.java`,

from JM\Ch05\Poll into one project. Then fill in the blanks in the PollDisplayPanel, following these steps:

1. Add a declaration for three `int` fields, `count1`, `count2`, `count3`, which hold the current poll counts.

2. Implement the `vote1`, `vote2`, and `vote3` methods, which increment the respective count.

3. Implement a `toString` method that returns a `String` containing the names of the candidates and their current vote counts. Something like this:

   ```
   Tami: 5  Brian: 7  Liz: 2
   ```

   Comment out the remaining blanks. Compile the `PollDisplayPanel` class and fix the syntax errors, if any.

4. Main is currently written with two different main methods (one is commented out). The uncommented main can be used to test what you have written so far.

   Compile and run it to test your progress.

   It should display

   ```
   Tami: 1  Brian: 2  Liz:  0
   ```

   Once your program works as expected, comment out this section and uncomment the section above.

5. Implement the `countToDegrees` method that converts the ratio of its two integer parameters, `count` and `total`, into the angle measure, in degrees, of a corresponding pie chart slice, rounded to the nearest integer.

6. Fill in the blanks in the `drawPieChart` and `drawLegend` methods.

7. Compile and test the *Poll* program.